HUMAN IMMUNODEFICIENCY VIRUS (HIV)
AND
ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

Clinical features: HIV, a retroviral pathogen that damages the body's immune system, is the causative agent for AIDS. With a weakened immune system, other pathogens may easily invade the body, allowing opportunistic diseases to develop and cause death. Most people infected with HIV develop detectable antibodies within 1-3 months after infection, but may remain free of signs or symptoms for several months to years. AIDS is a severe, life-threatening condition first recognized as a distinct syndrome in 1981. Clinical illness may include lymphadenopathy, chronic diarrhea, weight loss, fever, and fatigue. The severity of HIV-related illness is, in general, directly related to the degree of immune dysfunction.

Causative agent: Human immunodeficiency virus (HIV), a retrovirus. Two types have been identified: type 1 (HIV-1) and type 2 (HIV-2). These viruses are serologically and geographically distinct.

Mode of transmission: HIV can be transmitted from person to person through sexual contact, as a bloodborne pathogen (e.g. sharing of contaminated needles and syringes; transfusion of blood or its components; transplantation of HIV infected tissues or organs) and HIV infected pregnant women can infect their children before or during birth, during breastfeeding, or (rarely) following exposure to HIV- tainted blood or blood products after birth.

Incubation period: Variable, although the time from infection to the development of detectable antibodies is generally 1-3 months. The time from HIV infection to diagnosis of AIDS has been observed to range from less than one year to 15 years or longer.

Period of communicability: Unknown, presumed to begin early after onset of HIV infection and extend throughout life.

Public health significance: HIV is currently pandemic. As a preventable infectious disease with chronic health implications and no recognized cure, initiation of appropriate medical care and preventive services is important to reducing the burden of the disease on the infected and potentially susceptible public. Case reports initiate disease intervention specialist interviews for cases and contacts that help to establish links between cases and case management services (Ryan White CARE funding, drug and housing assistance programs) and physicians specializing in the treatment of HIV infected individuals. Additionally, these interviews serve to counsel individuals on methods for preventing further transmission of the disease to other persons.

Reportable disease in Kansas since: AIDS-1981; HIV-July 1, 1999

Criteria for Surveillance Purposes

AIDS

- Detection of either a) CD4+ T-lymphocytes/µL <200; b) a CD4+ T-lymphocyte percentage of total lymphocytes of <14%; or c) any of 24 specific diseases or syndromes.

HIV

- Western blot confirmed (positive/reactive) antibody test, HIV p24 antigen test, HIV nucleic acid (DNA or RNA) detection, HIV isolation (viral cultures).

Surveillance Case Definitions

AIDS

- All HIV-infected adolescents aged 13 years and adults who have either (a) a CD4+ t-lymphocyte count <200 or <14% or (b) been diagnosed with one of the AIDS defining opportunistic infections. Complete information on the case definition can be found in MMWR 1997; 46 (No. RR-10).

- The AIDS surveillance case definition for children aged <13 years includes the clinical conditions listed in the AIDS surveillance case definition found in MMWR 1997; 46 (No. RR-10).

HIV

- A case that is laboratory confirmed.

Note:

- The case definitions for adult and pediatric HIV infections have been expanded effective 1/1/2000. It includes HIV nucleic acid (DNA or RNA) detection tests (viral load tests) that were not available when the AIDS case definition was revised in 1993.
- HIV infection and AIDS are reportable in Kansas. A person previously reported as HIV infected is reported again as an AIDS case if an AIDS diagnosis is made.
- More detailed information on AIDS is available in the Kansas AIDS/STD Update, the "HIV/AIDS Epidemiologic Profile", and at http://www.kdhe.state.ks.us/hiv-std.

HIV Disease[1] Epidemiology and Trends

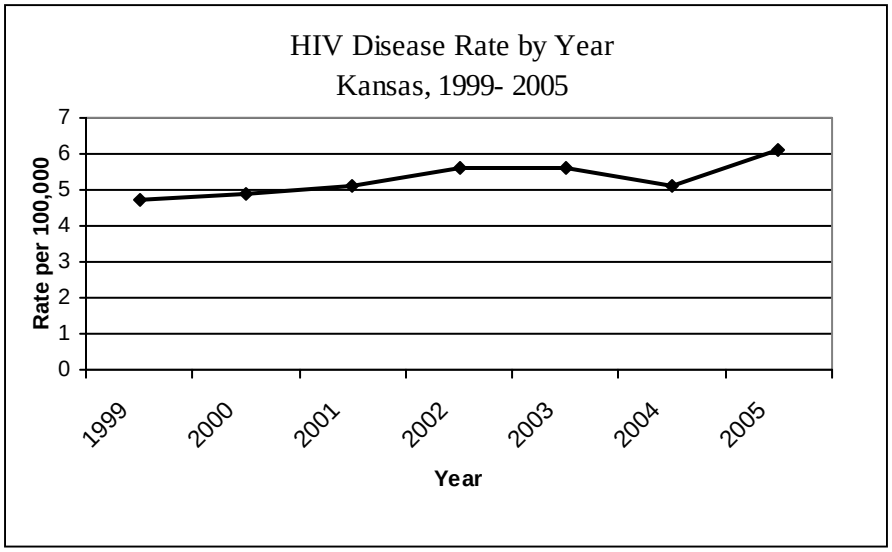
2005 Kansas Count: 166

	Rate per 100,000	*95% CI*
Kansas Rate	6.1	(5.1 – 7.0)
U.S. Rate (2004)[2]	*NA*	*NA*
Gender		
Male	9.2	(7.6 – 10.8)
Female	3.0	(2.1 – 3.9)
Race and Ethnicity*		
White	3.1	(2.4 – 3.8)
Black	39.2	(29.9 – 48.5)
Native American	6.5	(0 – 15.5)
Hispanic	10.6	(6.2 – 15.0)
Geographic area		
Urban County	9.3	(7.7 – 10.9)
Non-Urban County	2.7	(1.8 – 3.5)

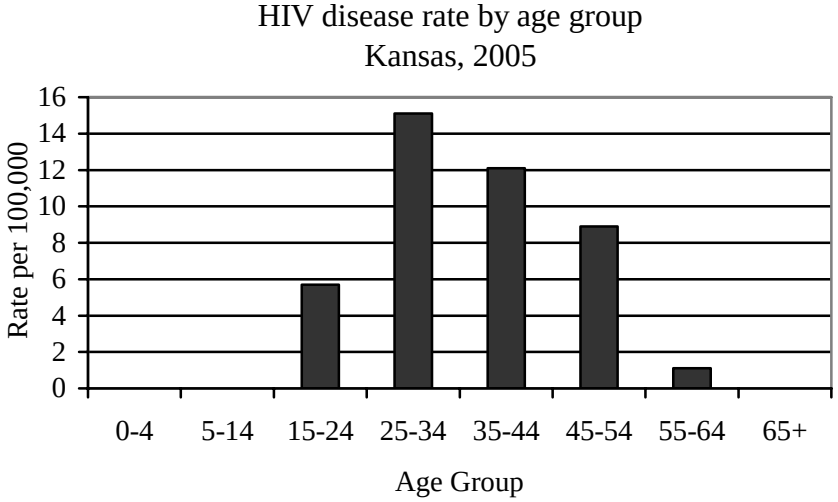
[1]HIV disease is defined as new cases of HIV infection in a particular yearregardless of AIDS status.

[2] CDC does not calculate a rate for HIV regardless of AIDS status.

****The HIV/AIDS program at KDHE combines race and ethnicity for analysis purposes. The denominators used for HIV/AIDS race rates differed from those used for other diseases: White 2,261632; Black 173,385; Hispanic 207,357; Native American 30,764; Asian/Pacific Islander 62,364.***



HIV disease is defined as new cases of HIV infection in a particular year regardless of AIDS status.
Data Source: HIV/AIDS Reporting System (HARS)



HIV disease is defined as new cases of HIV infection in a particular year regardless of AIDS status.
Data Source: HIV/AIDS Reporting System (HARS)

***Since 2005 population estimates for various population sub-groups in Kansas were not available at the time of analysis to calculate rates, 2004 Kansas population estimates have been used for denominators, while for numerators 2005 data have been used.*

Newly diagnosed and reported HIV infections are the only available indicator for changes in the HIV/AIDS epidemic in Kansas. Previous reports have divided AIDS and HIV data into separate categories; however, in the interest of providing an improved picture of the actual changes in the HIV epidemic the two will no longer be separated in this report. HIV infection will be considered regardless of the diagnostic status (AIDS or HIV) of the newly diagnosed individuals.

At the end of 2005, the state of Kansas HIV/STD Surveillance Program reported 1,679 individuals presumed to be living in Kansas and infected with HIV; among those 1178 (70%) had been diagnosed with AIDS. The numbers of newly diagnosed HIV disease cases (regardless of AIDS status) increased by 20% from 2004 to 2005, from 138 to 166 cases, respectively. Of the 166 newly diagnosed HIV infections in 2005, 65 (39 %) were also diagnosed with AIDS. The associated rate of infection for all newly diagnosed HIV cases based on the entire state population is 6.1 infections per 100,000 persons.

The age (at diagnosis) distribution for newly diagnosed HIV cases from 2005 includes individuals ranging from 16-72 years old, with a median age of 36. Excluding the lack of cases among Asian/Pacific Islanders for this reporting period, rates by race/ethnicity illustrate trends are similar to the national rates. However, the small minority populations in Kansas make it difficult to make statistically significant conclusions based on the elevated rates for Black/African-Americans and Hispanics. The difference in rates in Kansas between males (9.2 cases per 100,000 persons) and females (3.0 cases per 100,000 persons) represents the distribution of the disease burden where males accounted for 75% of all newly diagnosed HIV infections in Kansas and does not represent a change from the distribution of newly diagnosed cases last year. Additionally, the five most populated counties in Kansas account for 50.7% of the state's population and 78.3% of the new HIV cases. The rate for these urban counties is 9.3 cases per 100,000 persons and the 100 non-urban counties in the state have a rate of 2.7 cases per 100,000 persons.

Among the newly diagnosed cases 33.1% were among men who have sex with men, 16.9% were among those reporting risky heterosexual contact, and 35.5% are identified as having no classifiable risk factors for transmission. This 35.5% that cannot currently be classified are divided among those who report heterosexual contact with a person of unknown risk (20 /59, 33.9%), those who report heterosexual contact with a person of unknown risk and report a country of origin outside the United States (14 /59, 23.7%), and those who have no reported risks of any kind.

One key to improving outcomes for patients is the identification of new HIV infections prior to the conversion to AIDS. According to a study done by Neal and Fleming (CDC), "from 1994 through 1999, an estimated 43,089 (41%) had HIV diagnosed late."** Comparatively, the statistics for Kansas indicate that 66 percent of HIV cases are converting to AIDS within one year. Compared to previous years this statistic has increased and it continues to be a prevention priority to encourage testing with the hopes of capturing cases earlier in the course of the disease.

**Neal JJ, Fleming PL. Frequency and predictors of late HIV diagnosis in the United States, 1994 through 1999. In: Final program and abstracts of the 9th Conference on Retroviruses and Opportunistic Infections, Seattle, Washington, February 24-28, 2992. Alexandria, VA: Foundation of Retrovirology and Human Health.

Interval between 1st HIV positive test and AIDS diagnosis in Kansas, 2004*

Interval	2004
12 Months or Less	55 (66%)
13 to 60 Months	15 (18%)
Greater than 60 Months	13 (16%)
Total	83 (100%)

Data Source: HIV/AIDS Reporting System (HARS)

♣*Note: This table represents the total number of cases diagnosed in 2004 and therefore totals differ from the above rate table, which uses the 2005 date of report for reference.*